Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. – 5. (Canceled)

6. (Currently Amended) A semiconductor device comprising an oxide-nitride gate dielectric having substantially similar gate to substrate capacitance as an oxide gate dielectric comprising a thickness less than approximately 20 angstroms, wherein the oxide-nitride gate dielectric comprises a silicon dioxide layer and a distinct silicon nitride layer.

7. (Original) The semiconductor device of claim 6, wherein said oxide-nitride gate dielectric has a substantially similar gate to substrate capacitance as an oxide gate dielectric having a thickness between approximately 10 angstroms and approximately 15 angstroms.

8. (Currently Amended) The semiconductor device of claim 6, wherein said ~~oxide-nitride gate dielectric~~ oxide layer comprises ~~an oxide~~ a thickness between approximately 6 angstroms and approximately 10 angstroms, and wherein ~~a~~ said nitride layer comprises a thickness between approximately 15 angstroms and approximately 20 angstroms.

9. (Original) The semiconductor device of claim 6, wherein said oxide-nitride gate dielectric comprises a thickness that varies by less than approximately 5% across the semiconductor topography.

10. (Original) The semiconductor device of claim 6, wherein said oxide-nitride gate dielectric comprises a greater density than said oxide gate dielectric.

11. (Original) The semiconductor device of claim 6, wherein said oxide-nitride gate dielectric comprises fewer defects than said oxide gate dielectric.

12. (Previously Presented) A method for processing a semiconductor topography, comprising:

growing an oxide film upon the semiconductor topography in the presence of an ozonated substance comprising ozonated deionized water;

depositing a silicon nitride film upon and in contact with the oxide film; and

annealing the semiconductor topography subsequent to the step of depositing the silicon nitride film.

13. – 14. (Canceled)

15. (Original) The method of claim 12, wherein said ozonated substance comprises an ozone concentration between approximately 20 ppm and approximately 50 ppm.

16. (Canceled)

17. (Previously Presented) The method of claim 12, wherein said annealing comprises exposing the semiconductor topography to ammonia or nitrous oxide.

18. (Previously Presented) The method of claim 12, wherein said annealing comprises exposing the semiconductor topography to deuterium ammonia.

19. (Previously Presented) A method for forming an oxide-nitride stack upon a semiconductor topography, comprising:

growing an oxide film upon the semiconductor topography in a first chamber at a first temperature, wherein said growing comprises rinsing the semiconductor topography with an ozonated substance;

transferring the semiconductor topography from said first chamber to a second chamber, wherein said transferring comprises exposing the semiconductor topography to a substantially similar temperature as said first temperature;

forming a nitride layer upon the oxide film in said second chamber at a second temperature; and

forming a second oxide film upon and in contact with the nitride film at a fourth temperature, wherein said fourth temperature is greater than the first temperature.

20. (Original) The method of claim 19, wherein said first temperature is between approximately 10 °C and approximately 30 °C.

21. (Original) The method of claim 19, wherein said second temperature is between approximately 750 °C and approximately 800 °C.

22. (Canceled)

23. (Original) The method of claim 19, further comprising annealing said semiconductor topography at a third temperature subsequent to said forming the nitride layer.

24. (Original) The method of claim 23, wherein said third temperature is between approximately 750 °C and approximately 850 °C.

25. (Canceled)

26. (Previously Presented) A method for processing a semiconductor topography, comprising:

growing an oxide film upon the semiconductor topography in the presence of an ozonated substance comprising ozonated deuterium oxide; and

depositing a silicon nitride film upon and in contact with the oxide film.

27. (Previously Presented) The method of claim 26, wherein the step of growing the oxide film comprises growing the oxide film to a thickness less than or equal to approximately 10 angstroms.

28. - 29. (Canceled)

30. (Previously Presented) The method of claim 26, wherein the step of growing the oxide film comprises growing the oxide film at a temperature between approximately 10 ^{o}C and approximately 1000 ^{o}C.

31. (Previously Presented) The method of claim 12, wherein the step of annealing is conducted prior to any other step used to process the semiconductor topography subsequent to the step of depositing the silicon nitride film.

32. (Previously Presented) The method of claim 26, wherein the ozonated substance comprises an ozone concentration between approximately 1.0 ppm and approximately 50 ppm.

33. (Previously Presented) The method of claim 26, further comprising annealing the topography in a nitrogen ambient subsequent to the step of depositing the silicon nitride film.

34. (Previously Presented) The method of claim 26, wherein the step of growing the oxide film comprises exposing the semiconductor topography to a liquid form of ozonated deuterium oxide.

35. (Previously Presented) The method of claim 26, wherein the step of growing the oxide film comprises exposing the semiconductor topography to a vapor form of ozonated deuterium oxide.